

Serial No. 10/762,083

Amendments to the Specification

Please replace the ABSTRACT on page 13, with the following amended ABSTRACT:

ABSTRACT OF THE DISCLOSURE

An aircraft ~~comprising~~ includes a fuselage, thin supersonic wings on the fuselage, there being trailing edge flaps carried by the wings, the flaps configured to provide flap deflection to simultaneously control wing twist and to reduce drag, when the aircraft is operated at subsonic flight conditions.

On page 4, beginning on line 14, please insert the following:

As shown in the drawings, and as described, there are at least four of said trailing edge flaps located in spanwise sequence along each wing, and wherein at subsonic flight conditions the flap or flaps located progressively relatively closer to the fuselage has or have progressively a greater downward deflection relative to the wing than the flap or flaps relatively closer to the wing tip, and at supersonic flight conditions all of said flaps have relatively faired positions relative to the wing.

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Claim 1 (currently amended) An aircraft comprising

- a) a fuselage
- b) thin supersonic wings on the fuselage, the wings having tips,
- c) there being trailing edge flaps carried by the wings,
- d) said flaps configured to provide flap deflection to simultaneously control wing twist and to reduce drag, when the aircraft is operated at subsonic flight conditions[[.]],
- e) and said wings have low sweep angularity relative to the fuselage to provide substantial laminar airflow, the wings further characterized as having relatively low torsional stiffness,
- f) there being at least four of said trailing edge flaps located in spanwise sequence along each wing, and wherein at subsonic flight conditions the flap or flaps located progressively relatively closer to the fuselage has or have progressively a greater downward deflection relative to the wing than the flap or flaps relatively closer to the wing tip, and at supersonic flight conditions all of said flaps have relatively faired positions relative to the wing.

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Claim 2 (cancelled).

Claim 3 (currently amended). The aircraft of claim 2
1 wherein the wings are further characterized as having

a) a center of pressure, at subsonic flight conditions,

b) a torsional elastic center,

and wherein in the absence of said flap deflection at subsonic flight condition said center of pressure is forward of said torsional elastic center, tending to create moments of force acting to twist the wing tip to higher angles of attack.

Claim 4 (currently amended). The aircraft of claim 2
1 wherein in the absence of said flap deflection said center of pressure is substantially closer to said torsional elastic center, under supersonic flight conditions, than under subsonic flight conditions.

Claim 5 (original). The aircraft of claim 3 wherein with said flap deflection provided as in claim 1, the center of pressure is substantially closer to said torsional elastic center under subsonic flight conditions, than in the absence of said flaps.

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Claim 6 (currently amended). The aircraft of claim 1 wherein said flaps provide means including camber ~~acting to reduce~~ for reducing subsonic wing leading edge vortex drag, and increased compressibility drag increase.

Claim 7 (original). The aircraft of claim 1 including means for monitoring wing twist, and to control flap angularity to reduce said twist, thereby providing closed loop feed back.

Claim 8 (original). The aircraft of claim 1 including a control system or systems to maintain the flaps positioned to control twist and drag, at subsonic flight conditions.

Claim 9 (original). The aircraft of claim 8 wherein the control system or systems is configured to monitor flight conditions including air speed, and to position the flaps.